

## **REMARKS**

Upon entry the present amendment, claims 16, 21, 24, and 29 will have been amended to clarify the recitations of the claims defining the present invention. Additionally, claims 32 to 33 will have been submitted for consideration by the Examiner. The above noted amendments to the claims of the present application have not been made in view of any of the prior art of record in the present application. Accordingly, these amendments should not give rise to any prosecution history estoppel.

In view of the herein contained amendments and remarks, including the information, clarifications and arguments provided to the Examiner at the personal interview conducted in the present application on October 17, 2008, Applicants respectfully submit that all the claims in the present application are clearly in condition for allowance and respectfully request an indication to such effect, in due course. Such action is submitted to be appropriate and proper and is thus respectfully requested.

Initially, Applicants wish to respectfully thank the Examiner for considering the arguments set forth in Applicants' response under 37 C.F.R. § 1.111 filed on June 16, 2008, and for his withdrawal of the finality of the outstanding Office Action in view of such arguments. Additionally, Applicants respectfully thank the Examiner for his detailed and comprehensive Official Action.

Applicants' invention is directed to a transmission method for transmitting an orthogonal frequency division multiplexing signal and to a transmitting apparatus. Utilizing the features of Applicants' claim 16 as a non-limiting example of the invention defined by the pending claims, the present application is directed to a transmission method for transmitting an orthogonal frequency division multiplexing signal. The method includes, composing a plurality of carrier

groups each including one or more some carriers, and assigning transmission data for a plurality of transmission destination terminals, to the plurality of carrier groups. Further, the method the of the present invention includes selecting, for each of the carrier groups, one of a first frame configuration where the transmission data is transmitted using one modulated signal and a second frame configuration where the transmission data is transmitted using a plurality of modulated signals and transmitting the assigned transmission data.

It is respectfully submitted that none of the prior art preferences of record in the present application, whether considered individually or whether combined either as proposed by the Examiner or in any other proper manner, discloses, teaches, suggests or renders obvious the above noted combination of features which define an aspect of the present invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections together with an indication of the allowability of all of the claims pending in the present application, in due course.

Initially, Applicants wish to make of record a personal interview conducted between Applicants undersigned representative and the Examiner in charge of the present application, Mr. Brandon J. Miller. Also present at the above noted interview were two representatives of the assignee of the present application, Mr. Ono and Ms. Takagahara.

Applicants' undersigned representative respectfully thanks and expresses the gratitude of all the participants in the interview to the Examiner for his cooperation in scheduling and conducting the above noted interview and for his cooperative approach to the present application, as well as for his assistance to Applicants' representatives in clarifying and defining the allowable subject matter of the present application.

During the above noted interview, Applicants representatives and the Examiner discussed the Examiner's asserted rejection of claim 29 under 35 U.S.C. § 112, second paragraph. Applicants representatives explained to the Examiner what was intended by the terminology of claim 29 that the Examiner considered to be indefinite. At the conclusion of the explanation the Examiner indicated that he now more fully understood what was being described by the language at issue.

Nevertheless, by the present response, Applicants have further amended the language of claim 29 to even more clearly and unambiguously define the features of Applicants' invention, as recited therein. Accordingly, in view of the above explanation as well is in view of the herein contained amendments, Applicants respectfully submit that any basis for the rejection of claim 29 under 35 U.S.C. § 112, second paragraph has been eliminated and that the claim is in full compliance with the provisions of 35 U.S.C. § 112.

During the above noted Interview, Applicants' representative discussed and described the structure, configuration, and operation of the present invention with particular emphasis on embodiment 5 with reference to figure 16 and the disclosure related thereto starting at page 51 of the present specification. In particular, the first and second frame configurations were discussed with respect to the illustration thereof in figure 16.

During the above noted interview, Applicants' representatives also pointed out the significant and substantial differences between the ASANO reference relied upon by the Examiner and the features of the pending claims. In particular, Applicants pointed out that ASANO contains no "selecting" of frame configurations. ASANO merely discloses switching modulation methods (or schemes) and including information regarding a particular modulation method within the frame configuration, as is shown in figure 2, at data block 12.

Applicants also pointed out that ASANO merely teaches selecting “a modulation method to be used for the subsequent signal transmission by changing the modulation value and controls the frame configuration circuit such that the selected modulation method is used in the subsequent signal transmission” (column 7, lines 32 through 36).

Applicants further pointed out that ASANO merely adds, to the mapped transmission data, additional information including the modulation method information 12, representing the selected modulation method but that ASANO does not teach “selecting” of a frame configuration as defined in Applicants’ claims. In this regard, Applicants respectfully directed the Examiner's attention to ASANO, column 7, lines 41 through 54. As a result of this explanation and discussion regarding the features of the ASANO reference, the Examiner agreed that ASANO does not disclose the features as recited in the pending claims.

During the above noted interview, Applicants’ representatives also discussed the term “on a per unit time basis” that is present in claims 16 and 24 of the present application. Applicants proposed deleting this term from the claims because it does not relate to a significant feature of the present invention and the Examiner agreed that deleting this term would not have any impact on the patentability of the pending claims.

In addition to the above, Applicants also pointed out a significant and distinctive feature of Applicants disclosed invention. In particular, Applicants note that according to the teachings of the present invention, the data transmitted using one modulated signal can be transmitted from a single antenna while the data transmitted using a plurality of modulated signals is transmitted from a plurality of antennas. At the conclusion of this discussion, the Examiner indicated that he understood this distinction. Applicants note that this distinction between the features of Applicants’ invention and of the references relied upon by the Examiner is not set forth in all of

the claims and accordingly indicated that several additional dependent claims directed to this feature would be submitted.

At the conclusion of the interview, the Examiner indicated that based on the present record, the pending claims define combinations of features that are not disclosed by the references relied upon. However, the Examiner indicated that he would review Applicants' written submission (i.e., the response to the outstanding Office Action), that he would update the search and reconsider the rejections, and that he possibly might additionally consult other Examiners in the Patent Office regarding the recited combinations of features of the present invention.

Applicants again thanks the Examiner for his consideration and cooperation during the above noted interview and look forward to receiving the results of the Examiner's further consideration of the claims of the present application. Applicants additionally requested that the Examiner promptly review the reply to be filed and, in response, the Examiner invited Applicants to contact him by telephone to remind him to promptly take up the present application for review and reconsideration once the reply has been filed.

In the outstanding Official Action, the Examiner rejected claim 29 under 35 U.S.C. § 112, second paragraph for being indefinite. In particular, the Examiner asserted that the claim fails to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner made particular reference to certain limitations of the claim which, he asserted, rendered the claim indefinite.

As noted above, during the interview, Applicants' representative explained precisely how the language of claim 29 distinctly defines the features of the present invention and the Examiner indicated that he now understood what was meant by the terminology used in claim 29.

Moreover, by the present response, Applicants have revised the language of claim 29 to ensure that it even more clearly and distinctly defines the features of Applicants' invention. Accordingly, in view of the above noted discussion and the herein contained amendments, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection asserted against claim 29 for containing vague and indefinite language.

In the outstanding Official Action, the Examiner rejected claim 16, 18-21, 23, 24 and 26-31 under 35 U.S.C. § 103(a) as being unpatentable over HADAD (U.S. Patent No. 7, 224, 741) in view of ASANO (U.S. Patent No. 6, 941, 113).

As noted above, Applicants respectfully traverse the above rejection and submit that it is inappropriate with respect to the combination of features cited in each of Applicants' claims. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection together with an indication of the allowability of all of the claims pending in the present application.

In setting forth the rejection, the Examiner explicitly admitted that HADAD does not teach selecting, for each of the carrier groups, one of a first frame configuration where the transmission data is transmitted using one modulated signal and a second frame configuration where the transmission date is transmitted using a plurality of modulated signals. Thus the Examiner relied upon ASANO for this feature. However, at least for the reasons set forth during the above noted interview, it is respectfully submitted that ASANO does not teach selecting one of a first frame configuration and a second frame configuration as the frame configurations are defined by the terminology of Applicants' claims.

In particular, and as pointed out during the above noted interview, ASANO merely teaches a single frame configuration. The frame configuration of ASANO is illustrated in figure

2. According to the teachings of ASANO, depending on the modulation method that is selected, different information will be contained in block 12 of the frame illustrated in figure 2. However, this is not what is recited in the pending claims and according ASANO cannot supply the admitted shortcoming of HADAD.

The frame configuration circuit 6 of ASANO maps transmission data to symbols of the modulation method selected by the modulation level control circuit 5. Further, the frame configuration circuit 6 adds, to the mapped data, additional information including the modulation method information 12 which represents the selected modulation method. Thus, ASANO merely teaches a single frame configuration which contains, in block 12, information relating to the selected modulation method. Thus, since ASANO does not disclose the use of two different configurations, there can of course not be a "selecting" of one of a first frame configuration and a second frame configuration, as required by Applicants' clients.

As also noted during the above noted interview, where the data is transmitted using a plurality of modulated signals, and as shown, inter alia, in figure 3, data can be transmitted utilizing a plurality of antennas. This additional feature is not disclosed by ASANO (or HADAD). In this regard, Applicants note the Examiner's assertion, at page 9, line 5 of the outstanding Official Action that HADAD teaches a plurality of antennas. In this regard, the Examiner directed Applicants' attention to column 3, lines 25-30 and figures 1 and 2 of HADAD.

However, Applicants respectfully submit that the above noted portion of HADAD, to the extent that it discloses the utilization of plural antennas, refers to plural antennas associated with plural distinct mobile subscribers (i.e. data receivers). In direct contrast, Applicants' invention relates to "transmission" of data utilizing plural antennas. This is not disclosed, in the claimed

combinations, by HADAD or ASANO or any of the references of record in the present application.

Moreover, because ASANO only utilizes a single antenna, ASANO cannot transmit a plurality of modulated signals, as recited in Applicants' claims. However, according to the teachings of the present invention, when one modulated signal is transmitted, a single antenna can be used while when a plurality of modulated signals are transmitted, plural antennas can be used. As a result of the above noted features of Applicants' invention both high-quality data transmission and high-speed data transmission can be achieved.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections together with an indication of the allowability of all of the claims pending in the present application, in due course.

By the present response, Applicants have submitted two additional dependent claims which are directed to the transmission of one modulated signal from a least one antenna and the transmission of a plurality of modulated signals from a plurality of antennas, using the limitations of claim 32 as a non-limiting example of this aspect of the present invention. As noted above and as discussed during the interview, neither HADAD nor ASANO discloses this additional feature of Applicants' invention. Accordingly, these two newly submitted claims are submitted to be patentable both based upon their own recitations as well as based on their dependence from a shown to the allowable base claim.

Further, each of the other pending dependent claims in the present application, claims 18-20, 23, 26 - 28, 30 and 31 are also submitted to the allowable based upon their dependence from a shown to be allowable base claim as well as based upon their own particular combinations of recitations. An action to such effect is respectfully requested, in due course.



## **SUMMARY AND CONCLUSION**

Applicants have made a sincere effort to place the present application into condition for allowance and believe that they have now done so. Applicants have amended several of the claims to clarify the features of the present invention but not in view of the prior art. Applicants have additionally submitted several dependent claims for consideration.

Applicants have additionally made of record a personal interview conducted with the Examiner in the present application during which interview it was agreed that the claims appeared to define over the prior art of record in the present application.

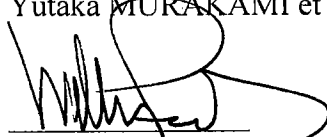
Applicants have, both during the above noted personal interview as well as in the present response, pointed out the significant and substantial differences and distinctions between the claims of the present application and the disclosure of the combination of references relied upon by the Examiner. Applicants have discussed specific portions of the disclosure of the references relied upon by the Examiner and based on such disclosure, has distinguished the features of the present claims from the teachings of the relied upon references. Applicants have also discussed the particular recitations of the pending claims and, with respect to such recitations, pointed out the shortcomings of the disclosure of the references with respect thereto. Accordingly, Applicants have provided a clear evidentiary basis supporting the patentability of all the claims pending in present application and respectfully request an indication to such effect in due course.

Additionally, Applicants have described the structure and operation of the present invention and have contrasted the same with the features of the references relied upon. Further, Applicants have clarified the language of one of the claims that was rejected by the Examiner as being indefinite and have also amended the language of the above noted claim to enhance the clarity thereof.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,  
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October 31, 2008  
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